REMARKS

Reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claim 1 has been amended to reintroduce the specific wavelength of the laser light employed. The foregoing is supported in paragraph [0028] in the U.S. Published Application.

In addition, claim 5 has been amended and claim 6 has been cancelled without prejudice or disclaimer.

Claims 1, 2 and 4 – 8 stand rejected under 35 USC 103(a) as being unpatentable over Cotell et al (WO 04/22513). This rejection is respectfully traversed.

The Examiner alleges that "in the absence of criticality of the wavelength of F2 laser", the Cotell reference would motivate the skilled person to "optimize the wavelength of the laser" in order to achieve the desired porosity, which would render the present invention obvious.

These assertions are, however, improper for a number of reasons:

1. The choice of the 157 nm F_2 laser is critical

   The wavelength of the Fluorine laser is in fact very critical, contrary to what the Examiner alleges. This criticality is expressed explicitly in amended claim 1. As explained in detail in Applicants' response of November 9, 2009 to the official action of July 27, 2009, the absorption pattern of amorphous CaP coating and the sensitivity of the polymeric substrate to radiation/heat impose specific limitations on the laser to be used for annealing the amorphous CaP coating. The choice of the 157 nm F_2 laser is therefore very critical and, in fact, essential in order to achieve satisfactory results. This information is not suggested, taught or disclosed, nor can it be derived, from the teaching of Cotell.

2. The "motivation" referred to concerns deposition and not annealing

Independent claim 1 concerns the laser-induced *annealing* of an amorphous CaP coating, whereas the passage relied on by the Examiner concerns the *deposition* of a CaP coating on a substrate, which is the step preceding the annealing of the coating. Hence, even if the skilled person would, indeed, have decided to experiment with different wavelengths *for deposition* and for some reason would have chosen or selected the F_2 laser (in spite of the fact that it is neither disclosed nor suggested in Cotell), he would still not have arrived at anything falling within the scope of independent claim 1.

3. There is no motivation

The Examiner has selected the laser light wavelength from a list of parameters through which porosity allegedly can be manipulated *in the deposition process*. Based on this list, there is no way to predict the combinations of parameters which would yield the "desired porosity". At the very most, it can be asserted that the skilled person, theoretically, *could* have tried to use an F_2 for *depositing* a CaP coating on a substrate, for no other reason than it was known to exist. In other words, Cotell fails to provide any teaching, suggestion, or motivation.

Moreover, Cotell teaches that the preferred laser for depositing CaP on a substrate is the KrF laser (cf. page 9, lines 2-3). Hence, even if the person skilled in the art would have set out to find the optimal conditions for CaP *deposition*, following the remark at page 11, lines 27 – 31, it is not seen why he would disregard the explicit preference expressed by Cotell. After all, the two passages referred to are perfectly in keeping with each other, such that there is no reason for the skilled person to choose one and reject the other one.

4. The "optimization" is merely asserted

The Examiner's reasoning ***assumes*** that the F_2 laser would actually yield

"the desired result" as regards the porosity of the *deposited* CaP layer. However, neither the present application, nor Cotell, nor any other document presently on file, in fact provides any indication to that effect. Therefore, regardless of a lack of motivation, it is utterly improper for the Examiner to assert that one of ordinary skill in the art would have reverted to the F_2 laser (for *deposition*) such as to achieve the "desired porosity". Quite simply there isn't a shred of evidence that the use of the F_2 laser in the deposition process would provide said result. In other words, whereas obviousness requires that a result achieved by an invention be predictable at the effective date of the claim, in the present case, the Examiner relies on a result which, to date, is unknown.

The claimed invention provides a significant, unexpected and unpredictable improvement over Cotell precisely by virtue of reverting to the 157 nm F_2 laser in the process of annealing the amorphous CaP coating. An important aspect of this invention is the recognition of a sharp decrease in transmission in the amorphous CaP coating when the irradiation wavelength is decreased to below 200 nm, as illustrated in figure 3 of the as-filed application. Due to the fact that this characteristic is neither disclosed nor derivable from the cited prior art documents, namely, the use of laser irradiation of wavelength of about 157 nm (F_2 laser), provides a very significant and unpredictable advantage, especially where the substrate is heat labile, because less energy (heat) is transmitted to the substrate. Transmission of heat to the substrate causes problems, such as deterioration of the substrate and damage at the interface of the coating and substrate (peeling).

Cotell clearly recognized the problems associated with *annealing* a CaP coating on a heat-labile substrate and discusses extensively all the process parameters that, according to the authors, could aid in reducing or eliminating these problems, without there being any suggestion of lowering the wavelength of the laser light to well below 200 nm. In summary, Cotell addresses the problems for which the claimed invention has provided a solution, but fails to disclose or suggest this particular solution. Such facts are strongly indicative and persuasive of unobviousness and the presence of inventive merit.

Since independent claim 1 and the claims dependent thereon, clearly distinguish over the teaching of Cotell, the Examiner has failed to establish a *prima facie* obviousness by a preponderance of the evidence. Accordingly, the rejection having been overcome should be withdrawn.

Claims 3 and 13 stand rejected under 35 USC § 103(a) over the combination of Cotell in view of Li et al. (U.S. Published Application No. 2002/0156529). This rejection is respectfully traversed.

Since both claims 3 and 13 ultimately depend from claim 1, and claim 1 is deemed to distinguish over the teaching of the primary reference in the Examiner's posited combination, then necessarily the secondary reference to Li et al. in combination with Cotell cannot be said to render claims 3 and 13 obvious since they include the limitations of claim 1. Since the rejection has been overcome, its withdrawal is solicited.

The issuance of a Notice of Allowance is solicited.

Please charge any fees which may be due and which have not been submitted herewith to our Deposit Account No. 01-0035.

Respectfully submitted,

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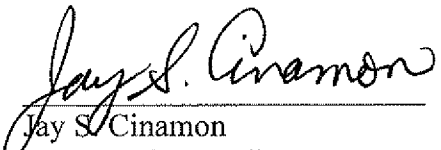
By 
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